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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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08/748,935 11/13/96 IMAI

S 44085-32

020277
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WASHINGTON DC 20005-3096

PM82/0703

EXAMINER

NGUYEN, T

ART UNIT	PAPER NUMBER
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3661
DATE MAILED:

07/03/01

27

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

08/748,935

Applicant(s)

Imai et al

Examiner

Thu Nguyen

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE three MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on May 14, 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2, 3, 5, 9-22, 29, 34, 35, and 37-44 is/are pending in the application.
- 4a) Of the above, claim(s) 41-44 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 9-22 and 37 is/are allowed.
- 6) ☒ Claim(s) 2, 3, 5, 29, 34, 35, and 38-40 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☐ All b) ☐ Some* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- *See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☐ Notice of References Cited (PTO-892) 18) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 19) ☐ Notice of Informal Patent Application (PTO-152)
- 17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ 20) ☐ Other: _____

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DETAILED ACTION

Election/Restriction

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 2-3, 5, 9-22, 29, 34-35, 37-40 drawn to tessellation and data generation, classified in class 345, subclass 423.
 - II. Claims 41-44 drawn to shape generating, classified in class 345, subclass 443.
2. The inventions are distinct, each from the other because of the following reasons:

Inventions Group I and group II are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because generating mesh data does not require a user to indicate the position where an object data should be generate on the surface of a model. The subcombination has separate utility such as providing a graphical user interface to allow a user to draw a line on a surface.
3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

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4. Newly submitted claims 41-44 are directed to an invention that is independent or distinct from the invention originally claimed for the above reasons.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 41-44 have been withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 38-40 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 38, lines 5 and 8-9 discloses generating data point for a portion or portions of the model. This feature is not disclosed in the specification. The specification discloses generating data for a model, but does not teach generating data for just a portion or portions of the model.

Claims 39-40 are rejected as being dependent on the rejected based claim.

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Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 29, 2, 5, 34-35, 38-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sato et al (U.S Patent No. 5,754,680) (Sato '680).

As per claim 29, Sato '680 teaches a method of generating three-dimensional form data.

The method comprises the steps of: obtaining an electronic data representing a three dimensional form model (col.5, lines 16-30); generating a plurality of lines along a surface of the three dimensional form model (col.5, lines 41-44);

Sato '680 does not explicitly disclose modifying the plurality of generated lines.

However, in col.6, lines 1-4; and col.8, lines 53-61, Sato '680 discloses modifying patches on the model and reducing the number of nodal data, wherein the patches is defined by latitudinal and longitudinal lines. It would have been obvious to a person of ordinary skilled in the art at the time the invention was made to adjusting the lines defining a patch to change the size of the patch of Sato '680. The motivation for this would have been to obtain a smaller set of data as motivated by Sato '680 in col.8, lines 58-61.

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As per claim 2, 5, Sato '680 teaches expressing generated lines as parametric and spline curve group (col.5, lines 48-58).

As per claim 34, Sato '680 discloses generating a sum of data for representing modified lines with summary data smaller than the quantity of the obtained three dimensional form data (col.8, lines 53-61).

As per claim 35, Sato '680 discloses providing electronic data representing a three dimensional model from an electronic data generator (col.5, lines 16-19).

As per claim 38, Sato '680 discloses a method for processing an electronic data representing three dimensional model, the method comprises the steps of: receiving a first electronic data representing a three-dimensional model of an object (col.8, lines 35-43); generating a second electronic data which has quantity less than the first electronic data (col.8, lines 44-52); generating a third electronic data which has quantity less than the first electronic data (col.8, lines 53-61). Sato '680 does not explicitly disclose that the second and third electronic data represent the first and second portions of the model. However, it would have been obvious to an ordinary person skilled in the art to provide just a subset of data representing a portion of the three dimensional surface from the known first electronic data in order to present the user just a part of the model the user is interested in.

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As per claim 39, Sato '680 discloses generating the second and third data which are extracted from the first data (col.8, lines 44-61).

As per claim 40, Sato '680 does not explicitly disclose changing the positions of the first and second portions by changing the lines to be projected. However, Sato '680 discloses lines that makes patches and changing the patches to modify the set of data (col.8, lines 53-57; col.6, lines 1-4). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to change the patches of an area by adjusting the lines which define the patches in order to change the quantity of data.

9. Claims 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sato '680 in view of Letcher, Jr. (U.S Patent No. 5,627,949).

As per claim 3, Letcher teaches defining control points and moving control points along the surface of a model (col.16, lines 29-40). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use the control point taught by Letcher to move the lines along the surface of the object of Sato '680. The motivation for this would have been to provide the user a convenient graphical user interface so that the user can adjust the lines of Sato '680 to obtain a desired amount of data he needs.

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Allowable Subject Matter

10. Claims 9-22 and 37 are allowed.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 305-7687, (for formal communications intended for entry)

Or:

(703) 305-7687 (for informal or draft communications, please label

"PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park V, 2451 Crystal Drive,
Arlington, VA., Seventh Floor (Receptionist).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thu Nguyen whose telephone number is (703) 306-9130. The examiner can normally be reached on Monday-Thursday from 8:00 am to 6:00 pm ET.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Cuchlinski, can be reached on (703) 308-3873. The fax phone number for this Group is (703)305-7687 .

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703)308-1111.

TVN

June 21, 2001



WILLIAM A. CUCHLINSKI, JR.
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600